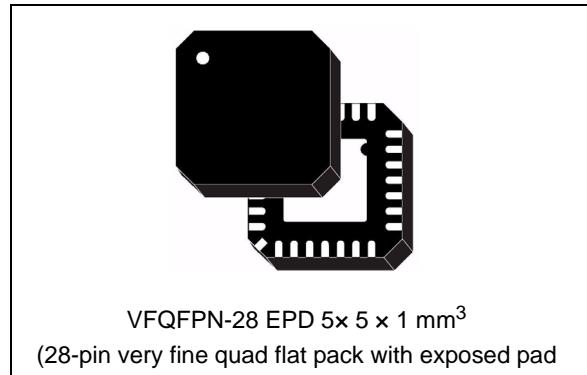


Audio/video buffer and four-channel SD/PS/HD video filter

Data brief

Features

- I²C bus control
- Video section:
 - Selectable 7-MHz/15-MHz/30-MHz, low-pass filters, plus bypass, on three encoder video inputs
 - 7-MHz, low-pass filter on one encoder video input
 - DC-coupled inputs
 - Each output is capable of driving an AC- or DC-coupled, 150- Ω video load at 3 V pp and CVBS output can drive a dual, 75- Ω video load
 - Fixed gain of 6 dB for each channel
 - Selective video output muting of HD and SD channels
- Audio section:
 - Stereo sound capability
 - Differential or single-ended audio inputs
 - Audio outputs drive 2-k Ω loads at 3 V RMS
 - Selectable audio gain of 0 to 28 dB
 - Audio output muting
 - 9 V to 12 V single supply operation
 - Pop-noise suppression management
- Low power mode
 - Audio/video standby function



Applications

- Set-top boxes (IP, cable, satellite, terrestrial)
- Integrated digital TV plug-in
- Blu-ray and DVD players

Description

The STV6437 is a fully integrated solution for filtering and buffering standard-definition, progressive-scan and high-definition signals, and buffering stereo audio signals from the MPEG decoder of a digital receiver, Blu-ray or DVD player, or iDTV plug-in.

The STV6437 embeds four buffers with low-pass filters, three for HD (selectable 7/15/30 MHz) and one for SD (7 MHz), and a dual audio amplifier that operates with either differential or single-ended inputs.

Table 1. Device summary

Order code	Temperature range	Package	Packaging
STV6437AJ	0 to 70 °C	VFQFPN-28 (5 x 5 mm ²) EPD	Tray
STV6437AJT	0 to 70 °C	VFQFPN-28 (5 x 5 mm ²) EPD	Tape and reel

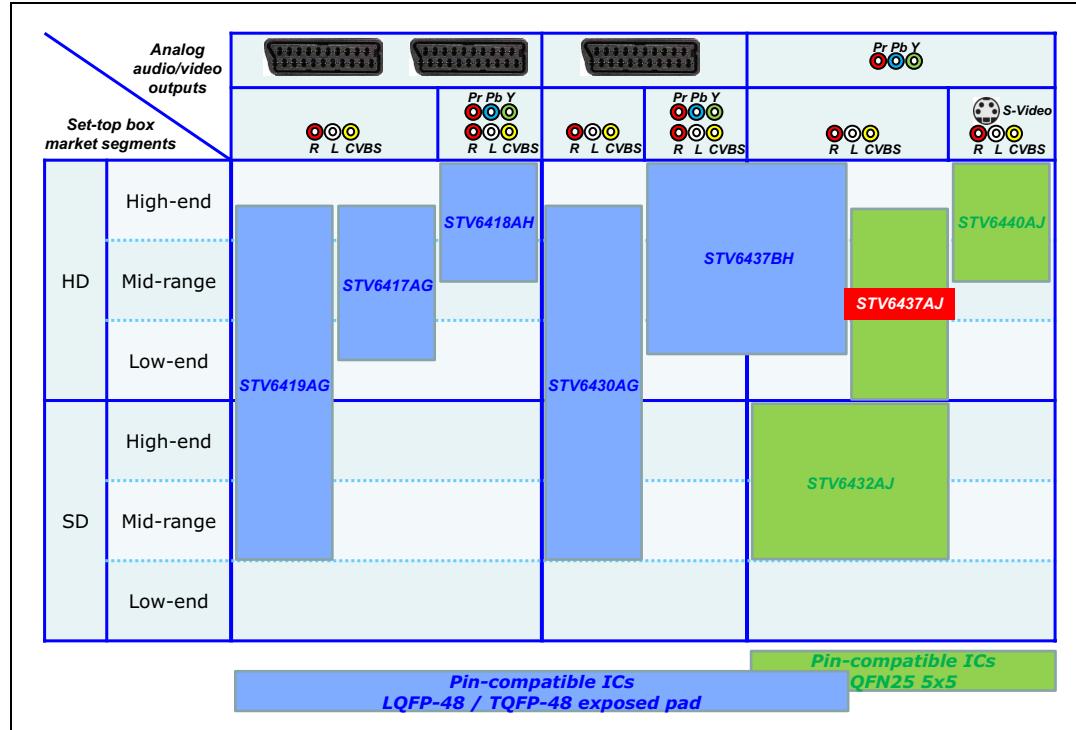
1 Introduction

The STV6437 is an I²C-controlled integrated circuit for filtering and buffering audio and video signals in any consumer electronics application with HD component and SD analog outputs. It can be used in products such as HD set-top boxes or DVD/BD players and recorders.

The STV6437 has a high level of integration and requires only the usual passive components for decoupling and termination. The tiny package VFQFPN-28 ensures a small footprint.

The STV6437 is one of the family of three, pin-compatible products (Figure 1) that complete the new generation of audio and video switches and buffers from STMicroelectronics. Together they cover, both technically and price-wise, the whole market spectrum from mid-range SD retail (zapper set-top boxes or basic recorders) up to DVR HD operators (set-top boxes or recorders with HD component output).

Features	Benefits
DC-coupled video inputs.	Reduces component count.
AC- and DC-coupled high-drive capability video outputs (for 70- Ω (minimum) loads).	Connects to any type of display and drives several composite and RF modulator outputs without external active components.
Smart pop-noise manager.	Allows silent swap between active and standby modes.
Selective standby command for audio and each set of SD or HD video outputs.	As low as 4-mW standby consumption supporting compliance to 0.5-W standby requirements.
8-step selectable audio gain up to +28 dB, supporting output of 3.1 V RMS (minimum).	Easy fine-tune of THD and SNR depending on requirements, whilst matching any specific audio output level, including China Cable, and saving external op-amps.
Pin-compatibility with two other products.	Combines single-device space-saving (up to 50%) benefits with commodity price/flexibility benefits to allow a single PCB design covering the entire market spectrum.
Pin-compatibility with STV6440AJ.	Provides dual-source solution at no cost premium in case of market shortage or sudden rise in demand.

Figure 1. Pin-compatible devices**2****Revision history****Table 2.** Document revision history

Date	Revision	Changes
12-Aug-2011	1	Initial release.

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